

In the claims:

1. (currently amended) A photomultiplier power supply comprising:
 - (a) a primary transformer winding for receiving an input voltage;
 - (b) a plurality of power supply cells, wherein each cell comprises:
comprising:
 - (c) a secondary winding coupled to the primary transformer winding;
 - (d) a first diode having a cathode connected to a ~~the~~ high side of the secondary winding;
 - (e) a second diode having an anode connected to the high side of the secondary winding;
 - (f) a center tap connected to a ~~the~~ low side of the secondary winding;
 - (g) a first capacitor having a first side connected to the center tap and a second side connected to an ~~the~~ anode of the first diode;
 - (h) a second capacitor having a first side connected to the center tap and a second side connected to a ~~the~~ cathode of the second diode;
 - (i) ~~the~~ a positive terminal of a given cell connected to a ~~the~~ negative terminal of a following cell;
 - (j) ~~the~~ a negative terminal of a ~~the~~ first cell connected to a photo cathode, ~~the~~ a first center tap connected to a first dynode, and a second dynode connected to a positive terminal of the first cell; and
 - (k) the a connection pattern of connections (d) through (j) series repeated until a positive terminal for a last cell is connected to a resistor connected in

series with an anode terminal ~~is reached~~ wherein any unused terminal in a last cell is left unconnected.

2. (currently amended) The power supply of claim 1 wherein ~~the~~ a voltage ratio is changed between photomultiplier tube elements by moving a dynode connection from a center tap in a cell to a positive terminal in the cell.
3. (currently amended) The power supply of claim 1 wherein ~~the~~ a voltage ratio is changed between photomultiplier tube elements by changing the number of turns in ~~the~~ a secondary coil.
4. (currently amended) The power supply of claim 1 wherein ~~the~~ a voltage ratio is changed between photomultiplier tube elements by moving a dynode connection from a center tap in a cell to a positive terminal in the cell and changing the number of turns in ~~the~~ a secondary coil.
5. (currently amended) A method for providing a photomultiplier power supply comprising:
 - (a) coupling a primary transformer winding for receiving an input voltage to a secondary winding comprising a plurality of power supply cells;
 - (b) connecting a first diode having a cathode to a high side of the secondary winding;
 - (c) connecting a second diode having an anode connected to the high side of the secondary winding;

- (d) connecting a center tap ~~connected~~ to a low side of the secondary winding;
 - (e) connecting a first capacitor having a first side connected to the center tap and a second side connected to an anode of the first diode;
 - (f) connecting a first side of a second capacitor to the center tap and connecting a second side of the second capacitor to a cathode of the second diode;
 - (g) connecting a positive terminal of a given cell to a negative terminal of a following cell;
 - (h) connecting a negative terminal of a first cell to a photo cathode, connecting a first center tap to a first dynode, and connecting a second dynode to a positive terminal of the first cell; and
repeating (b) through (g) the connection-series until a positive terminal for a last cell is connected to a resistor connected in series with an anode terminal is reached; and
leaving unconnected any unused terminal in a last cell.
6. (currently amended) The method of claim 5 further comprising:
moving a dynode connection from a center tap in a cell to a positive terminal in the cell to change ~~the~~ a voltage ratio between photomultiplier tube elements.
7. (currently amended) The method of claim 5, further comprising:

changing the number of turns in the a secondary coil to change the a voltage ratio between photomultiplier tube elements.

8. (currently amended) The method of claim 5, further comprising:
changing the number of turns in the a secondary coil by moving a dynode connection from a center tap in a cell to a positive terminal in the cell to change the a voltage ratio between tube elements.
9. (currently amended) A system for providing power to a photomultiplier for measuring at least one of counts and pulse heights using a down hole tool having a photomultiplier tube and photomultiplier power supply comprising:
- (b) a down hole tool for traversing a well bore formed in the earth, the tool further comprising;
 - (c) a photomultiplier tube;
 - (d) a photomultiplier power supply comprising a primary transformer winding for receiving an input voltage;
 - (e) a plurality of power supply cells, wherein each cell comprises:
comprising:
 - (f) a secondary winding coupled to the primary winding;
 - (g) a first diode having a cathode connected to the a high side of the secondary winding;

- (h) a second diode having an anode connected to the high side of the secondary winding;
 - (i) a center tap connected to ~~the~~ a low side of the secondary winding;
 - (j) a first capacitor having a first side connected to the center tap and a second side connected to the anode of the first diode;
 - (k) a second capacitor having a first side connected to the center tap and a second side connected to ~~the~~ a cathode of the second diode;
 - (l) ~~the~~ a positive terminal of a given cell connected to ~~the~~ a negative terminal of a following cell;
 - (m) ~~the~~ a negative terminal of ~~the~~ a first cell connected to a photo cathode, ~~the~~ a first center tap connected to a first dynode, and a second dynode connected to a positive terminal of ~~the~~ a first cell; and
 - (n) ~~the~~ series repeated until a resistor connected in series with an anode terminal is reached wherein any unused terminal in a last cell is left unconnected.
10. (currently amended) The system of claim 9 wherein ~~the~~ a voltage ratio is changed between photomultiplier tube elements by moving a dynode connection from a center tap in a cell to a positive terminal in the cell.
11. (currently amended) The system of claim 9 wherein ~~the~~ a voltage ratio is changed between photomultiplier tube elements by changing the number of turns in ~~the~~ a secondary coil.

12. (currently amended) The system of claim 9 wherein the a voltage ratio is changed between photomultiplier tube elements by moving a dynode connection from a center tap in a cell to a positive terminal in the cell and changing the number of turns in the a secondary coil.
13. (currently amended) A method for providing power to a photomultiplier in a down hole tool having a photomultiplier tube and photomultiplier power supply comprising:
- (a) traversing a well bore formed in the earth, with a down hole tool, the tool further comprising a photomultiplier tube;
 - (b) providing power to the photomultiplier further comprising,
 - (c) coupling a primary transformer winding for receiving an input voltage to a secondary winding comprising a plurality of power supply cells;
 - (d) connecting a first diode having a cathode to a high side of the secondary winding;
 - (e) connecting a second diode having an anode ~~eenneeted~~ to the high side of the secondary winding;
 - (f) connecting a center tap connected to a low side of the secondary winding;
 - (g) connecting a first capacitor having a first side connected to the center tap and a second side connected to an anode of the first diode;

- (h) connecting a first side of a second capacitor to the center tap and connecting a second side of the second capacitor to a cathode of the second diode;
connecting a positive terminal of a given cell to a negative terminal of a following cell;
 - (i) connecting a negative terminal of a first cell to a photo cathode, connecting a first center tap to a first dynode, and connecting a second dynode to a positive terminal of the first cell; and
 - (j) repeating the a connection series until a resistor connected in series with an anode terminal is reached; and
 - (k) leaving unconnected any unused terminal in a last cell.
14. (currently amended) The method of claim 13 further comprising:
moving a dynode connection from a center tap in a cell to a positive terminal in the cell to change the a voltage ratio between photomultiplier tube elements.
15. (currently amended) The method of claim 13, further comprising:
changing the number of turns in the a secondary coil to change the a voltage ratio between photomultiplier tube elements.
16. (currently amended) The method of claim 13, further comprising:

changing the number of turns in ~~the~~ a secondary coil by moving a dynode connection from a center tap in a cell to a positive terminal in the cell to change the a voltage ratio between photomultiplier tube elements.